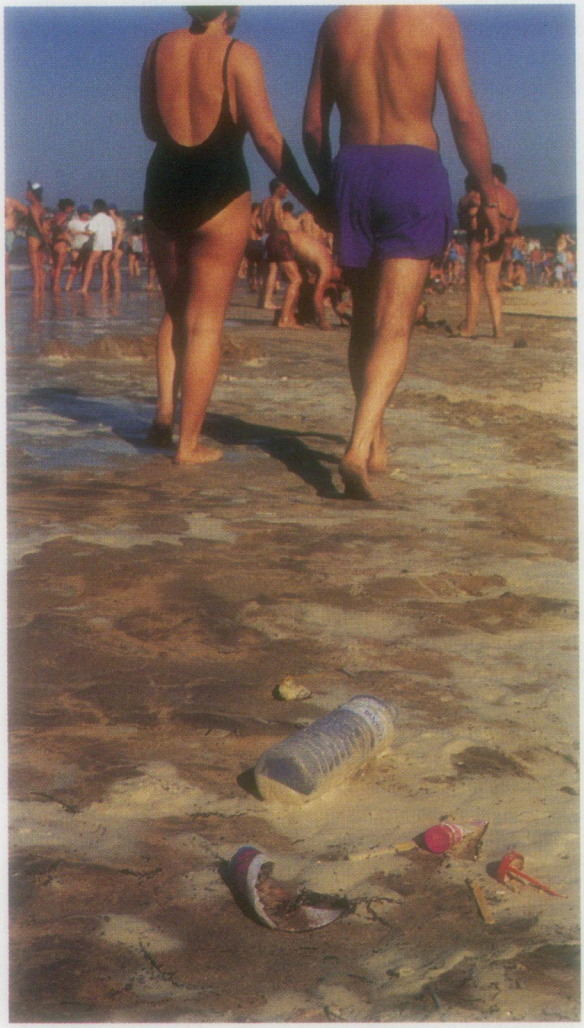
choice. The World Health Organization has found that d-phenothrin is not likely to pose a threat to human health when used properly, and does not cause allergic, sensitizing, or other known health reactions. "We are required by the Indian government to spray our flights before descent and produce empty cans upon arrival," says Kevin Florence, NWA's manager of loss prevention. "Failure to do so could result in the airplane being impounded, sent back to the city of origin, or treated by local authorities." Florence says that NWA has also adopted the integrated pest management approach, which emphasizes more sustainable and environmentally healthier solutions for controlling pests in the company's fleet.

Today, chemical companies are exploring new pest-control options for use on aircraft. Possible solutions include bait traps, the use of ultraviolet light, and integrated pest management.



This law's a beach. The Beaches Environmental Awareness, Cleanup, and Health Act of 1999 aims to establish national beach monitoring and public notification standards.

The Coast Is Cleaner

Beach buffs had something to celebrate on 22 April 1999, the day that the U.S. House of Representatives unanimously passed H.R.999, the Beaches Environmental Awareness, Cleanup, and Health Act of 1999. The bill was designed to establish national standards for testing and monitoring coastal recreational waters and for notifying the public of the pollution status of those waters. The legislation allocates $150 million over the next five years to aid local water officials in developing or updating their monitoring programs.

The bill, introduced by Representative Brian Bilbray (R–California), is an amendment to the Clean Water Act. The bill addresses four problems identified by local public health officials and beach users: inconsistent state water quality standards, outdated water quality criteria, lack of any coastal water quality monitoring in some areas, and unavailability of consistent public information on local beachwater quality. According to Bilbray, one of the main thrusts of the bill is to give the public the power of choice in deciding whether it's safe to go in the water. It will also create a collaborative, rather than punitive, environment in which local officials can establish water quality criteria. "This makes the federal government a partner rather than a taskmaster," says Bilbray.

Under the bill, any state bordering the Atlantic or Pacific Ocean, the Gulf of Mexico, or one of the Great Lakes has three and a half years to adopt water quality criteria and standards for the pathogens and pathogen indicators included under the Clean Water Act. These standards must be at least as protective of human health as the Clean Water Act's water quality criteria. The U.S. Environmental Protection Agency (EPA) will establish water quality standards for any state that fails to do so by the deadline. This provision will set a benchmark of quality for beaches across the country. The bill also directs the EPA to conduct research on beachwater pathogens and to issue updated pathogen criteria within the next four years, with subsequent reviews every five years in order to keep the knowledge base as current as possible. Upon the EPA's publication of new or revised water quality criteria, states will have three years to update their own criteria.

By providing funding and federal assistance to coastal areas, the bill aims to decrease the number of beaches that have no monitoring programs in place. It also encourages local officials to tailor local programs to local needs. Factors such as water temperature and salinity, for instance, can affect which pathogens are apt to turn up on a given beach. Bilbray, a former county supervisor in San Diego, California, notes, "One of the problems we've had with standards in the past is that local officials have been required to test for pathogens that haven't ever been detected in their waters. The bill strives for uniform levels of protection across the country versus uniform standards for all beaches." The bill's final provision is for a database to be made available to the public via the World Wide Web. The database will track the occurrence of water pollution in the nation's coastal recreational waters and indicate any areas that choose not to initiate a monitoring and notification plan, as well as areas that are not achieving their water quality goals.

According to a 1998 Natural Resources Defense Council (NRDC) report titled *Testing the Waters VIII: Has Your Vacation Beach Cleaned Up Its Act?*, there were 22,892 beach closings in the United States between 1988 and 1997, some lasting over 12 weeks. According to the report, 69% of beach closings and advisories in 1997 were due to bacteria levels that were found through regular monitoring processes to exceed beachwater quality standards. The other closings were due to pollution events such as sewage line breaks and oil spills, or to heavy rains, which are known to carry runoff pollutants into coastal waters.

Swimming-related illnesses include gastroenteritis and diarrhea. They are usually not life-threatening, but for certain populations, such as children, the elderly, and those with compromised immune systems, swimming-associated diseases can be more serious. These diseases may cause dehydration, vomiting, and, in extreme cases, death. The NRDC report cites a 1995 research project by the Santa Monica Bay Restoration Project in which over 15,000 beachgoers were interviewed to study the adverse health effects associated with swimming in ocean waters contaminated by urban runoff. The study

found an overall 44% increase in risk for fever, chills, ear discharge, vomiting, and coughing with phlegm associated with swimming near flowing storm-drain outlets in Santa Monica Bay as compared to swimming 400 yards or farther away. The NRDC report also states that pathogens responsible for more serious diseases such as cholera and typhoid fever have also been found in beach waters. But according to Alfred P. Dufour, director of the EPA's Microbial and Chemical Exposure Assessment Research Division, the risk of illness due to such pathogens is very low. "The Centers for Disease Control and Prevention have not reported any outbreaks of swimming-related illness linked to *Vibrio cholerae* or *Salmonella typhi* in at least 15 years," he says. All the same, maintains Bilbray, a lifelong surfer, the fact that beachgoers can contract any disease at all just from going in the water is reason enough to get national standards into place.

The next step for the bill is to pass the Senate, which may happen as soon as this summer. Dufour supports the bill, saying, "It's going to promote the monitoring of beaches, hopefully in places where it hasn't been done in the past—and that's good for the public." Adds Bilbray, "This bill empowers local officials and communities to be a part of developing solutions to address local problems."

Protecting Schools from Pesticides

Laws regulating the use of pesticides in and around schools vary widely throughout the United States. In a series of reports that review state laws and regulations regarding pesticide use, the National Coalition Against the Misuse of Pesticides (NCAMP), a nongovernmental organization based in Washington, DC, examined regulations addressing pesticide use and schools. The results of these reviews have raised concerns that children are not being adequately protected in one of the places they frequent the most—their schools.

On 28 January 1999, NCAMP issued a report, *The Schooling of State Pesticide Laws*, that found that just over half of all states have regulations that provide some level of children's health protection by addressing pesticide use in, around, or near schools. Only 16 states address the indoor use of pesticides. "Every state is different," says Kagan Owens, information coordinator for NCAMP and coauthor of the study. "Across the board, the level of protection is uneven."

When examining each state's pesticide laws, the report looked at five safety measures to determine whether the laws addressed children's health protection. These measures included the presence of restricted spray (buffer) zones to address chemicals drifting into school yards and school buildings from nearby applications, the posting of signs for indoor and outdoor pesticide application, prior written notification of pesticide use, prohibitions against application of pesticides in certain places and at certain times, and requirements for a strong integrated pest management (IPM) program to limit the use of certain toxic materials. Thirty states have policies that include at least one of these measures. Some local governments have their own pesticide policies in place for schools, but these also vary greatly.

Pesticide report card. A new report on state regulation of the use of pesticides in, near, and around U.S. schools shows that many states aren't making the grade when it comes to protecting children and school workers.

According to the report, six states restrict the application of pesticides in areas neighboring schools. The spray restriction zones range from 300 feet to 2.5 miles. Ten states require posting of signs for indoor application at schools, which NCAMP says allows students and staff to avoid exposure. Texas has the most stringent regulation, requiring that warning signs be posted at least 48 hours before application.

Twenty-two states require that signs be posted when pesticides are applied on school grounds. The report says that such postings are especially important for notifying children who play sports or spend time on school lawns. Nine states require written notification for students and/or school employees before pesticides are applied.

The report says that only seven states restrict the type and timing of pesticides that may be used in schools. Thirteen states define, recommend, or require IPM in their state pesticide statutes. Of these, five states require IPM and four recommend it.

NCAMP is pushing for the U.S. Environmental Protection Agency and the U.S. Secretary of Education to establish a national standard to set a level of protection for children against exposure to pesticides. "There should be a minimal standard that includes [the public's] right to know, IPM, and restrictions on use," says Owens. The group stresses that a national standard should be passed to provide uniform protection throughout the country. "No matter where you live, you should be informed about what is being sprayed in your children's schools," says Owens.

Whether or not a national regulation will be issued remains to be seen. Following the release of the report, the Environmental Protection Agency sent a letter to NCAMP stating that officials are looking into the issue. In the meantime, Owens says, NCAMP encourages people to work in their local school districts to pass policies that inform parents about pesticide spraying.